



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,273	01/30/2006	Atsuo Okaichi	050868	1681
23850 7590 12/28/2009 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
STIMPERT, PHIL/PEARL				
ART UNIT		PAPER NUMBER		
3746				
MAIL DATE		DELIVERY MODE		
12/28/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/566,273

Applicant(s)

OKAICHI ET AL.

Examiner

Philip Stimpert

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: the claim recites "a plurality of plates" and "a plurality of said plates." It is unclear whether the second recitation refers to the whole plurality of the originally recited plates or some portion thereof. Appropriate correction or clarification is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,554,015 to Dreiman et al. (Dreiman) in view of US Patent 5,937,817 to Schanz et al. (Schanz) and US Patent 5,582,271 to Mielo (Mielo).

4. Dreiman teaches a compressor comprising a container (22), a compressor mechanism (piston and cylinder, see Fig. 1) which is disposed in a lower portion (34) of the container for compressing working fluid (refrigerant), a motor (24) which is disposed in an upper portion (32) of the container for driving the compressor mechanism, a discharge pipe (not labeled, lower chamber to the left of the piston) which is disposed in an upper space (above the bottom) of the container for discharging the compressed working fluid, an oil reservoir (30) which is provided at a bottom of the container for

storing refrigeration oil (col. 3, ln. 55, "oil sump"). Dreiman does not teach a wave-suppressing member in the oil reservoir.

5. Schanz teaches an oil cooling system for an internal combustion engine. Schanz particularly teaches that "aeration or foaming of the oil affecting the oil's performance in lubricating..." (col. 1, ln. 22-23). Schanz also teaches providing a baffle (102), or divided member, in an oil reservoir, the baffle comprising vertical walls (126, 130) which "enhance the cooling and de-aerating aspects of the oil cooling system" (col. 6, ln. 17-18) and being able to move and float within the reservoir (col. 6, ln. 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the oil reservoir of the compressor of Dreiman with a baffle as taught by Schanz, in order to prevent effects from aeration on the lubrication of the compressor. However, Schanz does not specifically teach that the baffle (102) extends astride an interface between the oil and a separate working fluid. Further, the baffle taught by Schanz and provided to Dreiman includes a plurality of vertical plates (126, 130).

6. Mielo teaches an apparatus for filtering oil in a reservoir. In particular, Mielo teaches a floating surface flow-leveling means (20) which floats on a surface of the oil and allows air bubbles to escape (de-aeration) via a construction including laths (25). Further, Mielo teaches an oil reservoir in which there is space for a second, gaseous fluid. As a side note, the examiner notes that reference sign 23 in the drawings appears to equate to 25 in the specification. Since the oil reservoir of Dreiman is the bottom of the container (22) of the compressor, and thus is open at its upper end, it would have been obvious to one of ordinary skill at the time of the invention to provide the baffle of

Schanz at the interface of oil and refrigerant in Dreiman, as taught by Mielo, in order to adapt the de-aeration teachings of Schanz to the compressor oil reservoir of Dreiman. Thus provided, the baffle would divide the interface into a plurality of sections, or pieces, for instance along each deflector wall (130). The Oxford English Dictionary website provides the following definition for lattice: **"1. a.** A structure made of laths, or of wood or metal crossed and fastened together, with open spaces left between; used as a screen, e.g. in window openings and the like; a window, gate, screen, etc. so constructed,"

http://dictionary.oed.com/cgi/entry/50130372?query_type=word&queryword=lattice&first=1&max_to_show=10&sort_type=alpha&result_place=1&search_id=0Bzr-jirN5h-1875&hlite=50130372, retrieved 18 December 2009). Therefore, inasmuch as the

structure of Mielo is formed of laths, it is considered to teach a lattice as claimed, which would be obvious to provide in order to allow for the floating feature of the combination.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreiman in view of Schanz and Mielo, and further in view of JP 2002-239311 to Inoue (based on the machine translation included with this action).

8. As detailed above, Dreiman, Schanz, and Mielo teach the limitations of claim 15, with the exception of the mesh member disposed in the divided portion. Inoue generally teaches an apparatus for handling highly viscous materials (paragraph 1), and particularly teaches providing a divided screen (4) with a mesh member (see paragraph 9). Inoue teaches that this mesh member de-aerates the process fluid (see paragraph 19). Therefore, it would have been obvious to one of ordinary skill in the art at the time

of the invention to provide a mesh as taught by Inoue in order to enhance the de-aeration taught by Schanz in the modified installation of Dreiman.

Allowable Subject Matter

9. The indicated allowability of the subject matter of claims 4 and 15 is withdrawn in view of the newly discovered reference(s) to Inoue, and upon reconsideration of the scope of those claims. Rejections based on the newly cited reference and understanding are detailed above.

Response to Arguments

10. Applicant's arguments with respect to claims 4 and 15 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Stimpert whose telephone number is (571)270-1890. The examiner can normally be reached on Mon-Fri 7:30AM-4:00PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/P. S./
Examiner, Art Unit 3746
18 December 2009